

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently Amended) A method for determining a network
2 topology in a peer-to-peer network, the method comprising:
3 performing a tracerouting operation to obtain a traceroute from a first
4 client to a directory server, wherein a traceroute is a map of a path through which
5 a packet travels between the first client and the directory server, including
6 addresses of routers through which the packet travels;
7 determining a MAC address of a gateway of the first client;
8 sending the traceroute and the MAC address to the directory server from
9 the first client; and
10 using the traceroute at the directory server to build a router graph;graph,
11 wherein the router graph represents the topology of the peer-to-peer
12 network; and network.
13 wherein the directory server can use the MAC address to determine if any
14 other clients are on a same subnet as the first client.

1 2. (Currently Amended) The method of claim 1, further comprising:
2 performing a second tracerouting operation between the first client and a
3 second client; and
4 sending the second traceroute to the directory server.

1 3. (Cancelled)

1 4. (Original) The method of claim 1, further comprising:
2 sorting a list of addresses for routers received at the directory server from
3 the traceroutes; and
4 using the sorted list to determine which addresses are assigned to which
5 routers, wherein each router has two or more network interfaces and each
6 interface has an address.

1 5. (Original) The method of claim 1, further comprising using the
2 router graph to optimize data transfer within the peer-to-peer network.

1 6. (Previously Presented) The method of claim 1, further comprising
2 classifying the first client as a member of a router group based on a first public
3 address found in the traceroute, wherein the router group is a collection of clients
4 that communicate through a common router.

1 7. (Original) The method of claim 1, further comprising removing
2 information from the router graph if the information has not been validated for a
3 specified period of time.

1 8. (Currently Amended) A computer-readable storage medium storing
2 instructions that when executed by a computer cause the computer to perform a
3 method for determining a network topology in a peer-to-peer network, the method
4 comprising:

5 performing a tracerouting operation to obtain a traceroute from a first
6 client to a directory server, wherein a traceroute is a map of a path through which
7 a packet travels between the first client and the directory server, including
8 addresses of routers through which the packet travels;

9 determining a MAC address of a gateway of the first client;
10 sending the traceroute and the MAC address to the directory server from
11 the first client; and
12 using the traceroute at the directory server to build a router graph;graph,
13 wherein the router graph represents athe topology of the peer-to-peer
14 network; andnetwork.
15 wherein the directory server can use the MAC address to determine if any
16 other clients are on a same subnet as the first client.

1 9. (Currently Amended) The computer-readable storage medium of
2 claim 8, wherein the method further comprises:
3 performing a second tracerouting operation between the first client and a
4 second client; and
5 sending the second traceroute to the directory server.

1 10. (Cancelled)

1 11. (Original) The computer-readable storage medium of claim 8,
2 wherein the method further comprises:
3 sorting a list of addresses for routers received at the directory server from
4 the traceroutes; and
5 using the sorted list to determine which addresses are assigned to which
6 routers, wherein each router has two or more network interfaces and each
7 interface has an address.

1 12. (Original) The computer-readable storage medium of claim 8,
2 wherein the method further comprises using the router graph to optimize data
3 transfer within the peer-to-peer network.

1 13. (Currently Amended) The computer-readable storage medium of
2 claim 8, wherein the method further comprises classifying the first client as a
3 member of a router group based on ~~at~~the first public address found in the
4 traceroute, wherein the router group is a collection of clients that communicate
5 through a common router.

1 14. (Original) The computer-readable storage medium of claim 8,
2 wherein the method further comprises removing information from the router
3 graph if the information has not been validated for a specified period of time.

1 15. (Currently Amended) An apparatus for determining a network
2 topology in a peer-to-peer network, the apparatus comprising:

3 a tracerouting mechanism configured to perform a tracerouting operation
4 to obtain a traceroute from a first client to a directory server, wherein a traceroute
5 is a map of a path through which a packet travels between the first client and the
6 directory server, including addresses of routers through which the packet travels;

7 a determination mechanism configured to determine a MAC address of a
8 gateway of the first client;

9 an upload mechanism configured to send the traceroute and the MAC
10 address to the directory server from the first client; and

11 a graph building mechanism configured to use the traceroute at the
12 directory server to build a router graph;graph,

13 wherein the router graph represents the topology of the peer-to-peer
14 network; and network.

15 wherein the directory server can use the MAC address to determine if any
16 other clients are on a same subnet as the first client.

1 16. (Currently Amended) The apparatus of claim 15, wherein the
2 tracerouting mechanism is further configured to perform a second tracerouting
3 operation between the first client and a second client, and is further
4 configured to send the second traceroute to the directory server.

1 17. (Cancelled)

1 18. (Original) The apparatus of claim 15, further comprising:
2 a sorting mechanism configured to sort a list of addresses for routers
3 received at the directory server from the traceroutes; and
4 a determination mechanism configured to use the sorted list to determine
5 which addresses are assigned to which routers, wherein each router has two or
6 more network interfaces and each interface has an address.

1 19. (Original) The apparatus of claim 15, further comprising an
2 optimization mechanism configured to use the router graph to optimize data
3 transfer within the peer-to-peer network.

1 20. (Currently Amended) The apparatus of claim 15, further
2 comprising a classification mechanism configured to classify the first client as a
3 member of a router group based on the first public address found in the
4 traceroute, wherein the router group is a collection of clients that communicate
5 through a common router.

1 21. (Original) The apparatus of claim 15, further comprising a removal
2 mechanism configured to remove information from the router graph if the
3 information has not been validated for a specified period of time.